What is claimed is:

1. A method for time synchronization of at least two measuring computers (28, 36, 46) cooperating over a telecommunications network (10) such as Internet, intranet or similar; a highly accurate time stamp being required in each measuring computer for a measurement method, wherein several time sources of different accuracy are available to each measuring computer (28, 36, 46) for reading the time stamp from a time source; and
the selection of the time source is made by the measuring computer (28, 36, 46) as a function of the accuracy of the time source.

2. The method as recited in Claim 1,
wherein the measuring computer (28, 36, 46) selects the time source of the highest accuracy.

3. The method as recited in Claim 2,
wherein when a time source of higher accuracy fails, the measuring computer (28, 36, 46) automatically selects a time source of the next best accuracy

4. The method as recited in one of the preceding claims,
wherein signals of a satellite system (30), such as GPS (Global Positioning System), are used as the time source of the highest accuracy.

5. The method as recited in Claim 4,
wherein the signals of the satellite system are received by local GPS receivers integrated into the measuring computers (28, 36, 46), respectively.

6. The method as recited in one of the preceding claims,
wherein the measuring computers (28, 36, 46) each have local clocks (34, 40, 44) that are continuously synchronized to the local GPS receivers via NTP (Network Time Protocol) – internal synchronization.

7. The method as recited in one of the preceding claims,
wherein the internally synchronized local clocks (34, 40, 44) of the measuring computers (28, 36, 46) are used as the time sources of the second highest accuracy.

8. The method as recited in one of the preceding claims,
wherein when no signal of the satellite system (30) is present at the local GPS receiver (38) of a first measuring computer (36), the local clock (40) of the first measuring computer (36) is synchronized via NTP (Network Time Protocol) to the local clock (44) of at least one predetermined second measuring computer (46) after a predetermined time interval – external synchronization.

9. The method as recited in Claim 8,
wherein the time interval is adjustable.

10. The method as recited in claims 8 and 9,
wherein the external synchronization is done only with time sources of the second highest accuracy.

11. The method as recited in one of the preceding claims,
wherein the externally synchronized local clocks (34, 40, 44) of the measuring computers (28, 36, 46) are used as the time sources of the third highest accuracy.

12. The method as recited in one of the preceding claims,
wherein when the local clock (34, 40, 44) of a measuring computer (28, 36, 46) is internally or externally synchronized, the synchronization type is stored as well as the synchronization accuracy obtained.

13. The method as recited in one of the preceding claims,
wherein the unsynchronized local clocks (34, 40, 44) of the measuring computers (28, 36, 46) are used as the time sources of the fourth highest accuracy.

14. The method as recited in one of the preceding claims,
wherein measurement packets, in particular UDP measurement packets (User Datagram Protocol), are transmitted between the measuring computers (28, 36, 46).

15. The method as recited in Claim 14,
wherein the one measuring computer (28) acts as a sender, and the other measuring computer (36) acts as a receiver.

16. The method as recited in one of the Claims 14 and 15,
wherein the sending measuring computer (28) records the time of departure – send time stamp – of the outgoing measurement packet, and generates data associated with the send time stamp; and this data transmitted to the receiving measuring computer (36) along with the measurement packet and, possibly, further data, such as the sequence number, or the like.

17. The method as recited in Claim 16,
wherein the data associated with the send time stamp relates to information about the time source used, the type of synchronization, the accuracy of the synchronization, as well as the accuracy of the time stamp.

18. The method as recited in one of the Claims 16 through 17,
wherein the receiving measuring computer (36) generates the time of arrival – receive time stamp – of the incoming measurement packet as the second data, and generates data associated with the receive time stamp.

19. The method as recited in Claim 18,
wherein the data associated with the receive time stamp relates to information about the time source used, the type of synchronization, the accuracy of the synchronization, as well as the accuracy of the time stamp.

20. The method as recited in one of the Claims 14 through 19,
wherein the first data and the second data are assigned to a predetermined evaluation.

21. The method as recited in Claim 20,
wherein when the quality of the first and second data falls below a predetermined level, these data are not further considered.

22. The method as recited in one of the Claims 14 through 21,
wherein a measurement result is determined from the first data and the second data.

23. The method as recited in one of the preceding claims,
characterized by a measurement method according to DE 100 46 240.5, DE 101 28 927.8 and/or the patent applications entitled "METHOD FOR THE TRANSMISSION OF MEASURED DATA FROM A MEASURING COMPUTER TO A CONTROL COMPUTER IN A MEASURING SYSTEM" and "METHOD FOR THE OUTPUT OF STATUS DATA", filed by the applicant on the same day in view of this patent application.

24. A device for carrying out the method according to one of the preceding claims,